

1/2 025 UNCLASSIFIED PROCESSING DATE--11DEC70  
TITLE--IMMEDIATE AND LONG TERM RESULTS OF SPLENECTOMY IN HEMOLYTIC ANEMIA  
-U-  
AUTHOR--(04)-SENCHIL, YE.A., BLINOVA, A.I., KURALEVA, V.V., ABDULKADYROVA,  
A.S.  
COUNTRY OF INFO--USSR

SOURCE--SOV MED 33(1): 12-77. 1970

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANEMIA, SURRY, SPLEEN, HORMONE, CORTICOSTEROID, TEST,  
HEMCLYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3C07/0304

STEP NO--UR/C399/70/033/001/0072/0077

CIRC ACCESSION NO--AP0135799

UNCLASSIFIED

USSR

UDC 547.446.547.447

FOKIN, A. P., KOLISOV, V. A., DAVYDOVA, S. M., PROSTINA, E. V., and ABDULGANIYEVA, Kh. A.

"Preparation of Difluoronitroketones"

Leningrad, *Annals of Chemistry Khimii*, Vol 7, No 6, Jan. 71, pp. 1165-1167

Abstract: The difluoronitroketones (I) were prepared by reacting difluoronitromethane with aldehydes in the presence of  $\text{AgNO}_3 \cdot 0.5\text{H}_2\text{O}$  + HCl.

$\text{O}_2\text{NCF}_2\text{C(OR)}_2$  (I; R = Me, Et, Pr, Ph). By oxidizing compounds I with chromic acid, the difluoronitroketones  $\text{O}_2\text{NCF}_2\text{C(=O)R}$  (II; R = Me, Et, Pr, Ph) were obtained. The difluoronitroketones were distinctive colorless liquids. As distinguished from nitrofluoroacetone, the only fluoronitroketone known hitherto, which does not form either a semicarbazone or a 2,4-dinitrophenylhydrazide, II (R = Me) forms a 2,4-dinitrophenylhydrazone (m. p. 130°). II (R = Me), in which the reactions of the CO group of compound II were studied, formed a semicarbazone (m. p. 130°, d. 72°/5 mm) on being stirred up by HCN in the presence of NaCN. Oxidation of II (R = Me) in concentrated  $\text{H}_2\text{SO}_4$  yielded the reversionopropanone  $\text{O}_2\text{NCF}_2\text{C(=O)CH}_2\text{CH}_3$  and the difluoropropanone  $\text{O}_2\text{NCF}_2\text{C(=O)CH}_2\text{CH}_3$ . The properties of the new compounds that have been prepared are listed. The yields of II in the preparation from I were 51-65%.

1/1

USSR

UDC 535.376.2

ABDULAYEV, O.R., PAVLICHENKO, V.I., RYSHIKOV, I.V.

"Electroluminescence And Double Injection In Thin Silicon Carbide Structures Doped With Aluminum Or Boron"

V sb. Elektroluminestsentsiya tverd.tel. (Electroluminescence Of Solid Bodies---Collection Of Works), Kiev, "Nauk.dumka," 1971, pp 21-30 (from RZh--Elektronika i yeye primeneniye, No 11, Nov 1971, Abstract No 11B357)

Translation: The current-voltage and lumen-current characteristics are studied of p-i-n structures doped with aluminum or boron which differ in the resistivity and the extent of the separate regions. The experimentally observed exponential and power dependences of the current on the voltage are analyzed thoroughly in the limits of theories which take into account the tunneling of the carriers through the intermediate states in the band or recombination of the carriers in the layer of space charge of the p-n junction and in all regions of the p-i-n structure under conditions of a high injection level in the i-region. In the radiation spectra of the light diodes studied a shift of the maximum radiation into the shortwave region is noted as well as a contraction with the increase of temperature and current density. It is discovered that a considerable part of the blue-green and red radiation (which exceeds in intensity the yellow radiation) of SiC light diodes is created by short-duration diffusion of boron. 8 ill. 22 ref. Summary.

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USSR

UDC 577.153

BRESTKIN, A. P., ROZENCART, E. V., SOBOLEVA, I. N., KHROMOV-BORISOV, N. V.,  
INDENBOM, M. L., TIKHONOVA, L. N., ABDUYAKHABOV, A. A., and TOREMURATOV, K.,  
Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenova,  
Academy of Sciences USSR, Institute of Experimental Medicine, Academy of  
Medical Sciences USSR, Leningrad, and Tashkent State University imeni V. I.  
Lenin

"Unproductive Bonding of Cholinesterase Substrate"

Moscow, Doklady Akademii Nauk SSSR, Vol 205, No 3, 1972, pp 717-720

Abstract: Experiments have shown that the rate-limiting step in the Michaelis-Menton substrate reaction is the acylation or deacylation rather than the initial formation of the Michaelis complex. The specificity of the cholinesterase is also determined by the latter steps in the reaction and it is only the L optical isomer of acetyl- $\beta$ -methylcholine which is hydrolyzed by the acetylcholinesterase. The D isomer is an inhibitor at it is adsorbed on the active sites but not subsequently removed. The system can be generalized as follows:

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2/2 040  
CIRC ACCESSION NO--AP0129547

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. METHODS OF STUDYING THERMAL STRESSES IN WELDED METAL PARTS COMPRISING MATERIALS WITH SIMILAR ELASTIC PROPERTIES BUT DIFFERENT COEFF. OF THERMAL EXPANSION ARE DESCRIBED AND DISCUSSED, USING MODELS MADE FROM OPTICALLY SENSITIVE MATERIALS. NON UNIFORMITIES IN STRAIN DISTRIBUTION HAVE A CONSIDERABLE EFFECT ON THE STATE OF STRESS AT THE JUNCTION BETWEEN TWO SUCH MATERIALS, AND DUE ALLOWANCE MUST BE MADE FOR THIS EFFECT WHEN EMPLOYING MODELLING TECHNIQUES. TYPICAL EXAMPLES ARE PRESENTED.

UNCLASSIFIED

1/2 040 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--DETERMINATION OF THERMAL STRESSES IN PARTS MADE FROM VARIOUS  
DISSIMILAR MATERIALS -U-  
AUTHOR--ABDULATYEV, Z.E. A

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB., 1970, 36, (3), 347-349

DATE PUBLISHED----- 70

SUBJECT AREAS--PHYSICS, MECH., IND., CIVIL AND MARINE

TOPIC TAGS--THERMAL STRESS, DISSIMILAR MET, ACCEPTING, THERMAL EXPANSION,  
STRESS DISTRIBUTION, MATHEMATIC MODEL, OPTIC MODEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0315

STEP NO--10/003277/0/03/003/0347/0349

CIRC ACCESSION NO--AP0129547

UNCLASSIFIED

USSR

UDC 612.822.08

ABDULADZE, G. V., and GLUSHKOV, N. N., Laboratory of Neurophysiology and Pharmacology of Behavior, Institute of Physiology, Siberian Department of the Academy of Sciences USSR, Novosibirsk

"Statistical Treatment by Means of a Dnepr-1 Computer of Induced Brain Potentials in Experiments"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenova, Vol 59, No 6, Jun 73, pp 963-965

Abstract: A system of programming of a Dnepr-1 computer for the statistical treatment of induced brain potentials was worked out and tested in connection with experiments on cats. The system can be used for the study of the mechanisms of induction of potentials in the cortex upon single stimulations of sensory systems and of the hypothalamus. It was applied in the study of the action of pharmacologically active compounds. Statistical analysis with the aid of the system developed showed that the characteristics of the mean response of the somatosensory cortex and of the standard deviation function of the induced response changed in a specific manner upon application of cholinergic substances directly to the cortex or by intravenous administration.

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USSR

UDC 577.3

ABDULLAYEV, G. B., MAMEDOV, Sh. V., DZHAFAROV, A. I., and PERELYGIN, V. V.,  
Institute of Physics and Institute of Physiology

"Inhibition of Free Radicals in the Retina by Selenium"

Baku, Doklady Akademii Nauk Azerbaydzhanskoy SSR, No 3, 1973, pp 25-28

Abstract: The electron paramagnetic resonance spectrum was studied in the enucleated eyes of rabbits two days after they received parenteral injections of sodium selenite. At room temperature, both the control and experimental preparations of the retina and pigment epithelium showed an almost symmetrical singlet with  $g = 2.0035 \pm 0.005$  and  $\Delta H_m = 6 \pm 5$  oe. The only difference was in the intensity of the signal. The signals were more intense in the pigment epithelium. At the temperature of liquid nitrogen, all the parameters of the line were almost unchanged, but there was a substantial decrease in intensity of the signal. After the specimens were thawed at room temperature, the intensity of the signal was completely restored. In specimens from animals treated with selenium, the shape, g-factor, and width of the line remained unchanged, although there was a significant decrease in concentration of the paramagnetic centers compared to the control.

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Oncology

USSR

UDC 577.391:616.0064.577.15/17

ABDULLAYEV, G. B., GASANOV, G. G., RAGIMOV, R. N., TEPLYAKOVA, G. V.,  
MEKHTIYEV, M. A., and DZHAFAROV, A. I., Institute of Physiology, Institute  
of Physics, and Institute of Roentgenology and Oncology

"Selenium and Tumor Growth Under Experimental Conditions"

Baku, Doklady Akademii Nauk Azerbaydzhanskoy SSR, No 3, 1973, pp 18-24

Abstract: In mice and rats with transplanted tumors (M-1 sarcoma, Ehrlich's ascitic tumor, and Geren's carcinoma), a single injection of sodium selenite significantly retarded the growth of the tumor, especially if the injection was given when the tumor could barely be felt. The inhibition of tumor growth was even more pronounced when sodium selenite was combined with X-irradiation. In addition, the compound increased the animals' tolerance for radiation. When the animals received the tumor suspension after it had been treated with sodium selenite and heated to 40° for 2 hours, tumors did not begin to appear until 12 to 21 days after inoculation compared to 9 days in the control (given the tumor suspension treated with sodium selenite at room temperature). The inhibitory effect of the selenium compound is attributed to its ability to stimulate the production of endogenous antioxidants and lower the oxygen concentration of the tissues.

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USSR

UDC 628.58:549.74

ABDULLAYEV, G. B., GASANOV, G. G., MEKHTIYEV, M. A., DZHAFAROV, A. I., MAZANOV, D. M., BABAYEV, R. A., SADYKHOV, S. T., TEPLYAKOVA, G. V., and RAGIMOV, R. N.

"Radioprotective Effect of Selenium"

Baku, Doklady Akademii Nauk Azerbaydzhanskoy SSR, No 3, 1973, pp 12-17

Abstract: Sodium selenite administered to Wistar rats 20 minutes after X-irradiation at 490 rad had little protective effect, the survival rate and average life-span being insignificantly higher than in the controls (50% survival rate by day 30). However, the same dose of the compound administered 30 minutes prior to irradiation (intraperitoneally, subcutaneously, or perorally) had a markedly protective effect; the survival rate was 90% and the average life-span  $28 \pm 3.6$  days. When sodium selenite was combined with vitamins E (as an antioxidant) and A (to promote the retention of vitamin E in the body), the protective effect was even more pronounced, the survival rate and average life-span being significantly higher than in the controls (given selenium but not the vitamins).

1/1

Molecular Physics

USSR

UDC 537.212.546.23.772.93

ABDULLAYEV, G. B., Corresponding Member of the Academy of Sciences of the USSR  
Gal'VIDENE, V. I., GAL'VIDIS, N. M., Institute of Physics, Academy of Sciences  
of the Azerbaydzhan SSR

"Influence of a Constant Electric Field on the Formation of Selenium Electrophotographic Films"

Baku, Doklady Akademii Nauk AzerbSSR, Vol 28, No 11-12, 1972, pp 15-19

Abstract: A study is made of the effect of a constant electric field on the conditions of formation of selenium electrophotographic films during deposition. The change in the parameters of selenium films under the influence of an electric field shows the part played by the crystallization process, thermal velocities of molecules, and processes of change in the molecular forms in molecular complexes of selenium vapor. An electric field can be used in the process of formation of selenium electrophotographic films to control the properties of these films over wide limits. The field has a decelerating action which reduces the thickness of the deposited film, and an orienting effect which lines up the molecules in the direction normal to the film surface.

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2/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70  
CIRC ACCESSION NO--AT0130417  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FOUR POLYPEPTIDE FRAGMENTS OF  
BOVINE THYROCALCITONIN, OBTAINED BY ACID HYDROLYSIS, WERE ASSAYED FOR  
HYPOCALCEMIC ACTIVITY ON RATS. THE MOST ACTIVE FRAGMENT CONTAINED A  
REGION IN WHICH ALANINE, TYROSINE, AND TRYPTOPHAN RESIDUES OCCURRED  
CONSECUTIVELY. SWINE THYROCALCITONIN ALSO CONTAINS A REGION WITH THIS  
SEQUENCE, INDICATING THAT THIS MAY BE THE ACTIVE SITE OF THE HORMONE.  
FACILITY: VSES. NAUCH.-ISSLED. INST. ANTIBIOT., MOSCOW, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--PHYSICOCHEMICAL AND BIOLOGICAL PROPERTIES OF SEPARATE FRAGMENTS OF  
THE THYRICALCITONIN MOLECULE -U-  
AUTHOR-(C4)-STEKOLNIKOV, L.I., TEPELINA, O.M., ABDUKHARIMOV, A.,  
KONOPATSKAYA, V.M.                      **A**  
COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 476-9, BIOCHEM

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--THYROID HORMONE, HYDROLYSIS, FRACTIONATION, CALCIUM COMPOUND,  
METABOLISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3003/1488

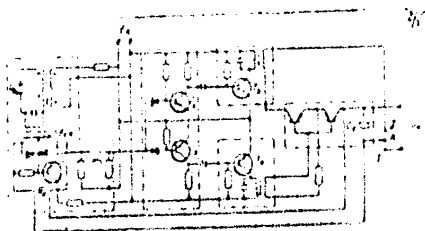
STEP NO--UR/0020/70/191/002/0476/0479

CIRC ACCESSION NO--AT0130417

UNCLASSIFIED

USSR

RAKOV, A. A., et al, Otkrytiya, Izobreteniya, Promyshlennyye Obratsey, Tovarnyye Znaki, No 12, 1970



A  
USSR

DOC: 001.974.9

RAKOV, N. A., ASPOKAYEV, A., Physicomechanical Institute, Academy of Sciences of the USSR

"A Multistable Pulse Duration Element"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzy, Novyye Izob. No 12, 1970, Author's Certificate No 255839, filed 17 Jan 69, p 4.

Abstract: This Author's Certificate introduces a multistable pulse duration element which contains a width modulator with differentiating network, a selective amplifier and a phase detector with low-frequency filter all connected in series. As a distinguishing feature of the patent, power supply is simplified by using a shaper distributor and an additional selective amplifier. The input of the shaper distributor is connected to the output of the differentiating network, and the outputs are connected to the inputs of the selective amplifiers. The outputs of the selective amplifiers are connected to a phase-sensitive detector whose output is connected through a low-frequency filter to the controlling input of the width modulator.



USSR

STEKOL'NIKOV, L.I., et al, Doklady Akademii Nauk SSSR, Vol. 192, No. 3, Mar 1970, pp 476-479

acids, and leucine. It is noteworthy that alanine and tryptophan of treatment two occupy positions 11 and 13 in the polypeptide chain of the T07 molecule.

USSR

A UDC: 612.441.018:(612.126.41+612.126.18)

STEKOL'NIKOV, L.I., TEPELENA, O.M., AEDUKARIMOV, A., and KONOPOVICHENKO, V.M.,  
All Union Scientific Research Institute of Antibiotics, and Institute of  
Higher Nervous Activity and Neurophysiology, Academy of Sciences, USSR.

"The Physical Chemical and Biological Properties of Separate Fractions of  
Thyrocalcitonin Molecules"

Moscow, Doklady Akademii Nauk SSSR, Vol 191, No 3, Mar 78, pp 476-478

Abstract: Because the hypocalcemic function of the recently discovered thyroid hormone, thyrocalcitonin (TCT), is disputed by some scientists, the authors obtained bovine TCT, which has a hypocalcemic effect in rats. Electrophoresis of hydrolyzed TCT produced one cathode and three anode fractions. The fractions were eluted and studied. A solution of fraction two was definitely hypocalcemic in rats, fractions one and three only slightly so, and fraction four negative. This proves that in order to obtain a specific biological function, it is not necessary to use the entire molecule of the hormone. Further chromatographic studies of hydrolyzed fractions showed the amino-acid composition in each: fraction one contained histidine, glutamic acid, cystine, tryptophan, phenylalanine, and leucine; fraction two, threonine, glutamic acid, alanine, tryptophan, phenylalanine, tyrosine, leucine, and valine; fraction three, histidine, aspartic acid, serine, arginine, and alanine; and fraction four, methionine, lysine, histidine, aspartic and glutamic

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2/2 012

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054921

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EPR SPECTRUM WAS INVESTIGATED OF CU PRIME2 POSITIVE IONS IN K SUB2 SO SUB4 (B) AT 77DEGREES K AT A WAVELENGTH OF 8 MM. THE SALT CRYSTALLIZES IN THE ORTHORHOMBIC SYSTEM AND BELONGS TO THE SPACE GROUP P NAM. THE SPECTRUM IS DUE TO 3 DIFFERENT TYPES OF PARAMAGNETIC CENTERS FORMED BY SUBSTITUTION OF K SUB2 POSITIVE (TYPE 2 CATIONIC SITE) BY CU PRIME2 POSITIVE IONS. ALL 3 TYPES CAN BE DESCRIBED BY THE ORTHORHOMBIC SPIN HAMILTONIAN WITH S EQUALS ONE HALVES AND I EQUALS THREE HALVES. PARAMETERS OF THE SPIN HAMILTONIAN WERE OBTAINED FROM THE ANGULAR DEPENDENCE AND ARE TABULATED. FORMATION OF THE 3 TYPES OF PARAMAGNETIC CENTERS CAN BE EXPLAINED BY CHARGE COMPENSATION WHICH TAKES PLACE ON SUBSTITUTION OF MONOVALENT ION WITH DIVALENT ION. THE EXCESS CHARGES OF CU PRIME2 POSITIVE IONS SUBSTITUTING FOR K SUB2 POSITIVE ARE COMPENSATED BY VACANCIES IN THE POSITION OF NEIGHBORING K SUB1 POSITIVE (TYPE 1 CATIONIC SITE).

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--ELECTRON PARAMAGNETIC RESONANCE OF CU PRIME2 POSITIVE IN POTASSIUM  
SULFATE -U-  
AUTHOR-(03)-ABDUISABIROV, R.YU., GREZNEV, YU.S., ZARIPOV, M.M.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(2), 657-9

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--POTASSIUM SULFATE, COPPER, ELECTRON PARAMAGNETIC RESONANCE,  
CRYSTAL LATTICE STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1984/0125

STEP NO--UR/0181/70/012/002/0657/0659

CIRC ACCESSION NO--AP0054921

UNCLASSIFIED

USSR

UDC 51:621.391

ABDUGALIYEV, U. A.

"The Problem of Representing a Function in K-valued Logic in Normal Form. II.  
(Separation of Simple Parts of the Pair  $(\mathcal{L}, \mathcal{R})$ , where  $\rho(\mathcal{L}\mathcal{R})=0$  and  $\mathcal{L}\mathcal{R} \neq \mathcal{L}\mathcal{R}$ .  
Construction of the Reduced D. N. F.)

Diskretn. Analiz. [Discrete Analysis -- Collection of Works], No 16, Novosibirsk,  
1970, pp 3-15 (Translated from Referativnyy Zhurnal Kibernetika, No 3, 1971,  
Abstract No 3 V349)

Translation: This article is a continuation of an earlier article by the author  
(RZhMat, 1970, 11 V320). It contains further results of the theory of minimiza-  
tion of functions in finite-valued logic.

1/1

USSR

UDC: 51

AKHUNDI, M. N., ABDUGAFAROV, A.

"Algorithm for Calculating Quotas in Construction Based on PERT Models"

V sb. Vopr. kibernetiki (Problems of Cybernetics--collection of works),  
vyp. 45, Tashkent, 1971, pp 46-52 (from RZh-Kibernetika, No 5, May 72,  
Abstract No 5V473)

[No abstract]

1/1

USSR

UDC: 547.944/945

YAGUDAYEV, M.R., ABDUAZIMOV, KH.A., YUNUSOV, S.YU., Order of Labor Red Banner  
Institute of Chemistry of Plant Substances, Tashkent, Academy of Sciences Uzbek SSR

"Investigation of the Structure and Stereochemistry of Ungernia Alkaloids by the  
Method of NMR Spectroscopy"

Tashkent, Khimiya Prirodnikh Soyedineniy, No 1, 1970, pp 94-97

Abstract: NMR spectroscopic data are given on ungerine, dihydroungerine, hippeastrine, dihydrohippeastrine, acetyldihydrohippeastrine and unsevine to explain the stereochemical singularities and structure of their molecules. The spectra of all compounds were taken on the JNM-4H-100 instrument with a working frequency of 100 MHz in a  $CDCl_3$  solution. The internal standard was hexamethyldisiloxane. It was found that the B/C rings in these compounds have the cis-arrangement. In contrast to the alkaloid clivonine, in dihydrohippeastrine the B/C rings have the cis-configuration and the  $N-CH_3$  group is situated above the plane of the benzene ring. The orientation of the  $H_5$ ,  $H_{5a}$  and  $H_{11c}$  protons and of the OR substituent associated with  $C_5$  in the C-ring is established.

2/2 009

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132679

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NMR SPECTRA OF UNGERINE, (I), DIHYDROUGERINE, HYPEASTRINE, HYPEASTRINE ACETATE, DIHYDROHYPEASTRINE (II), DIHYDROHYPEASTRINE ACETATE, AND UNSEVINE SHOWED THEIR B AND C RINGS TO BE CIS FUSED. IN II UNLIKE CLIVONINE, THE MEN GROUP IS SITUATED ABOVE THE BENZENE RING AND THE B-C RINGS ARE CIS FUSED. THE ORIENTATIONS OF H SUB5, H SUB5A, H SUB11B, AND THE OR GROUP AT C-5 WAS ESTABLISHED. NMR DATA ARE GIVEN. FACILITY: INST. KNIM. RAST. VECHCHESTV, TASHKENT, USSR.

UNCLASSIFIED



1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--STRUCTURE AND STEROCHEMISTRY OF UNGERNIA ALKALOIDS STUDIED BY NMR  
-U-  
AUTHOR--(03)-YAGUDAYEV, M.R., ABDUAZIMOV, KH.A., YUNUSOV, S.YU.  
COUNTRY OF INFO--USSR  
SOURCE--KHIM. PRIR. SSSR. 1970, 6(1), 94-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--PROCESSED PLANT PRODUCT, ALKALOID, MOLECULAR STRUCTURE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3005/0464 STEP NO--UR/0393/70/006/001/0094/0097  
CIRC ACCESSION NO--AP0132679  
UNCLASSIFIED

USSR

ABDUAZIZOV, A., Radiotekhnika, Vol 27, No 1, 1972, pp 75-76

nonlinear distortions increase. With an increase in the modulation index the nonlinear distortions decrease. The increase in nonlinear distortions with an increase in  $\alpha$  is connected with use of the nonlinear section of the phase characteristic of the circuit. For  $\beta \gg 1$  and  $\alpha \ll 1$ , the values of the nonlinear distortions in the dynamic mode approach the values in the quasistationary mode.

USSR

UDC 621.376.33.016.763

ABDRAZIMOV, A., Active Member of the Scientific and Technical Society of Radio Engineering, Electronics and Communications Ineni A. S. Popov

"Nonlinear Distortions in Harmonic Frequency Discriminators in the Dynamic Mode"  
Moscow, Radiotekhnika, Vol 27, No 1, 1972, pp 75-76

Abstract: In view of the fact that it is impossible to use the method developed earlier [I. M. Simonov, et al., Trudy uchebnykh institutov svyazi, No 24, 1965; Elektrosvyaz', No 9, 1965; Trudy uchebnykh institutov svyazi, No 38, 1966] in the presented investigation of nonlinear distortions in harmonic frequency discriminators in the dynamic mode because the operating principles of the harmonic frequency discriminator differ sharply from those of the frequency discriminator with mutually detuned circuits with coupled circuits and with an identical circuit, a study has been made of nonlinear distortions in the dynamic mode in the harmonic frequency detector. The formula is obtained for determining the nonlinear distortions with respect to the third harmonic at the output of the harmonic frequency discriminator in which a single circuit is used as the linear system. Graphs are presented for the function  $K = f(\alpha)$  calculated by the derived formula for various values of  $\beta$  and also the function for the quasi-stationary mode. With an increase in  $\alpha$  and the modulation frequency  $\Omega$ , the

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2/2 007

UNCLASSIFIED

PROCESSING DATE--02 OCT 70

CIRC ACCESSION NO--AP0113216

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RATES OF DISSOLN. A OF B SUB2  
 D SUB3, HYDROBORACITE, COLEMANITE, ULEXITE, AND CALCITE IN 1-70  
 WT.PERCENT AQ. ACOH AT 25, 50, 75, AND 95DEGREES WERE MEASURED. THE  
 PLOTS OF A VS. ACOH CONCN. SHOW MAX. AT 10-20 WT.PERCENT ACOH AND  
 COINCIDE WITH THOSE FOUND FOR THE DISSOLN. OF THE BORATES IN H SUB2 SO  
 SUB4, HCl, HNO SUB3, H SUB3 PO SUB4, AND HClO SUB4. THE FOLLOWING  
 VALUES OF THE TEMP. COEFFS. OF THE RATE OF DISSOLN. FOR THE ABOVE  
 MINERALS ARE: AT 25-35DEGREES, 1.61-1.67, 1.49-1.65, 1.55-1.75,  
 1.43-1.74, 1.34-1.53; AT 85-95DEGREES, 1.40-1.42, 1.32-1.42, 1.35-1.47,  
 MINUS, 1.23-1.35, RESP. THE VALUES OF THE ACTIVATION ENERGIES OF  
 DISSOLN. E SUBGAMMA ARE: AT 25-50DEGREES, 8.90-10.60, 9.01-12.50,  
 7.87-12.30, 6.53-10.15, 6.81-11.21; AT 50-75DEGREES, 8.14-9.58,  
 5.97-9.35, 5.07-10.92, 7.75-9.68, 3.19-6.18; AT 75-95DEGREES, 6.37-8.96,  
 4.35-8.27, 6.32-9.47, MINUS, 3.33-4.61 KCAL-MOLE. THE DISSOLN. PROCESS  
 IS ASSUMED TO BE DIFFUSIONAL IN CHARACTER.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--02 OCT 70  
TITLE--RATE OF BORATE DISSOLUTION IN ACETIC ACID SOLUTIONS -J-

AUTHOR--(C2)-TAMUTDINOVA, V.M., ABDUFASHITOVA, N.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 452-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BORATE, ACETIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0286

STEP NO--UR/0080/70/043/002/0452/0455

CIRC ACCESSION NO--AP0113216

UNCLASSIFIED

USSR

UDC: 621.375.124(088.8)

RUSYAYEV, N. N. and ABDRAKHMANOV, R. Kh.

"Selective Amplifier"

Avt. sv. SSSR (Author's Certificate USSR) Class 21a<sup>2</sup>, 18/08, (H 03 f 3/04), No. 273290, Application 27.03.69, Publication 24.08.70 (from RZh-Radiotekhnika, No. 3, March '71, Abstract No. 3D62P)

Translation: A selective intermediate-frequency amplifier using a common-base transistor is proposed. To improve the stability factor and make it possible to replace the transistor without retuning the circuit, the collector of each preceding amplifier is connected to the emitter of the last through an inductance, and to the base through a capacitance; here, the base-collector junction of each transistor in the amplifier is shunted by the series inductive-capacitive circuit.

1/1

USSR

ABDRAKHMANOV, M. A.

"Problems of the Conjugacy of Equations"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR: Seriya Fiziko-Matematicheskaya; September-October, 1970; pp 4-9

ABSTRACT: The author considers the problem of the conjugacy of a thermal conductivity equation and a wave equation, when the former is given inside an infinite strip; and the latter, on a semiplane.

The study of this problem leads to an integral equation for which, with the separation of the principal part, it is shown that the method of successive approximations can be used. It is noted that by the method of reduction to an integral equation it is possible to solve various problems of the conjugacy of a thermal conductivity equation, when it is given inside a rectangle, and a wave equation within an infinite semistrip.

1/1 The article includes 12 equations. There are no bibliographic references.

2/2 010

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132661

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF THE THALICTRUM FOETIDUM (MEADOW RUE) ALKALOIDS TALPINE (I) AND THALPHININE (II) WAS ESTABLISHED BY UV SPECTRA AND THE HOFMANN DEGRADATION. KMNO SUB4 OXIDN. OF I YIELDED THE 2,METHOXY,1,1 PRIME DIPHENYLOXIDE, 5,4 PRIME DICARBOXYLIC ACID (SIC), M. 290DEGREES; ME ESTER, M. 91-20DEGREES. CLEAVAGE OF I WITH NA LIQ. NH SUB3 AFFORDED LAUDANIDINE AND O-METHYLARMEPAVINE. FACILITY: INST. KHIM. RAST. VESHCHISTV, TASHKENT, USSR.

UNCLASSIFIED



1/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--STRUCTURE OF THALPHINE AND THALPHININE -U-  
AUTHOR-(03)-ABDIZHABBAROVA, S., ISMAILOV, Z.F., YUNUSOV, S.YU.  
COUNTRY OF INFO--USSR A  
SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(2), 279-80  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--PROCESSED PLANT PRODUCT, ALKALOID, CHEMICAL STRUCTURE, UV  
SPECTRUM  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3005/0439 STEP NO--UR/0393/70/006/002/0219/0290  
CIRC ACCESSION NO--AP0132661  
UNCLASSIFIED

USSR

VERGUNAS, F. I., et al., Pribory i Sistemy Upravleniya, No 2, 1972, pp 45-46.

-- from units of microvolts to several volts, the control signal is quite small, and electrical decoupling is insured between the controlling and controlled signals.

2/2

- 104 -

Microelectronics

UDC 621.362

USSR

VERGUNAS, F. I., Doctor of Physical and Mathematical Sciences, IVANOVA, G. A.,  
ABDIYEV, S., REPIK, A. V., VARFOLOMEYEV, I. N., Engineers

"Some Possibilities of Using Optoelectronic Switches in Microelectronic Circuits"

Moscow, Pribory i Sistemy Upravleniya, No 2, 1972, pp 45-46

Abstract: The OEK-2 optoelectronic converters -- a film photoresistor and gallium phosphide light diode couple mounted in the TO-5 housing -- were described previously [F. I. Vergunas, et al., Pribory i sistemy upravleniya, No 1, 1972]. In the present article a study is made of the possibilities of using OEK-2 in phase automatic frequency control circuits, in automatic phase control systems and as a controllable divider. The operating characteristics of the OEK-2 in the various applications are described. Some advantages of the three mentioned circuits using the OEK-2 include the following, respectively: 1) the filter band width switching circuit using the OEK-2 is very simple, does not require regulation and has an intake of no more than 10-20 milliwatts; 2) absence of a galvanic coupling between the control voltage from the discriminator and the signal the phase of which must be reversed in the automatic phase control system; 3) application of a photoresistor as the controllable element permits a divider to be obtained which is linear in a broad range of operating voltages

1/2

2/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0124379

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCE OF THERMAL COND. (LAMBDA) ON TEMP. WAS STUDIED FOR SE, POLY(VINYL CHLORIDE), PHENOLPHTHALEIN AND POLYAMIDE RESINS IN THE 20-110DEGREES RANGE. CHANGES IN LAMBDA DURING THE TRANSITION FROM THE GLASSY TO THE VISCOELASTIC STATE ARE CLASSIFIED AS FOLLOWS: (1) SMALL CHANGES IN THE MOL. FREE PATH (L), K., AND PHONON PROPAGATION RATE (V) CAUSE ONLY SMALL CHANGES IN LAMBDA DUE TO MOL. VIBRATIONS (LAMBDA PRIME) AND TO MOL. ROTATIONAL MOTION (LAMBDA PRIME PRIME), SINCE LAMBDA EQUALS LAMBDA PRIME PLUS LAMBDA PRIME PRIME; (2) L, D., AND V CHANGE AND LAMBDA PRIME DECREASES SO FAST THAT LAMBDA CHANGES ARE ALMOST WHOLLY DEPENDENT ON LAMBDA PRIME CHANGES; (3) CHANGES OF L, D., V, AND THEREFORE OF LAMBDA PRIME ARE COMPENSATED FOR BY THE DECREASE OF LAMBDA PRIME PRIME SO THAT LAMBDA REMAINS NEARLY CONST. FACILITY: INST. FIZ., BAKU, USSR.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--300C170  
TITLE--CHANGE IN THE THERMAL CONDUCTIVITY OF AMORPHOUS POLYMERS DURING  
THEIR TRANSITION FROM THE VITREOUS TO THE HIGHLY ELASTIC STATE -U-  
AUTHOR-(03)-MAMEDALIYEVA, G.G., ABDINOV, P.SH., ALIYEV, G.M.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(6), 1393-5 (PHYS CHEM)

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--THERMAL CONDUCTIVITY, AMORPHOUS POLYMER, TEMPERATURE  
DEPENDENCE, SELENIUM, POLYVINYL CHLORIDE, PHENOLPHTHALEIN, POLYAMIDE  
RESIN, VISCOELASTICITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--2000/0709

STEP NO--UR/0020/70/190/006/1393/1395

CIRC ACCESSION NO--AT0124379  
UNCLASSIFIED

3/3 018 UNCLASSIFIED PROCESSING DATE--16OCT70  
CIRC ACCESSION NO--AP0118004  
ABSTRACT/EXTRACT--FACILITY: INST. FIZ., BAKU, USSR.

UNCLASSIFIED

1/3 019 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--ELECTRICAL CONDUCTIVITY OF LIQUID AND CRYSTALLINE SELENIUM  
CONTAINING CHLORINE, IODINE, AND OXYGEN IMPURITIES -U-  
AUTHOR-(03)-AKHUNDOVA, E.G., ABDINOV, D.SH., ALIYEV, G.M.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 372-4  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ELECTRIC CONDUCTIVITY, CHLORINE, IODINE, OXYGEN, SELENIUM,  
BROMINE, CRYSTAL, FLUID STATE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1996/0825 STEP NO--UR/0363/70/006/002/0372/0374  
CIRC ACCESSION NO--AP0118004  
UNCLASSIFIED

3/3 012

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118042

ABSTRACT/EXTRACT--AFTER TAKING INTO CONSIDERATION ALL THE POSSIBLE MECHANISMS, THE TEMP. DEPENDENCE OF THE THERMAL COND. OF THE COMPOS. STUDIED GIVES A LINE WHICH IS PARALLEL TO THE T AXIS; I.E. WITHIN THE TEMP. RANGE INVESTIGATED IT REMAINS ALMOST CONST. AND HAS LOW VALUES (SIMILAR TO 10 PRIME NEGATIVE4 CAL-CM SEC DEGREE). THE DETN. OF THE FREE PATH LENGTH OF THE PHONONS FROM HEAT CAPACITY, D., AND SOUND VELOCITY VALUES FOR CRSE (POSSESSING THE HIGHEST LAMBDA SUBLATTICE) GIVES VALUES OF SIMILAR TO 2.5-3 ANGSTROM, I.E. OF THE ORDER OF INTERPLANAR SPACINGS. FACILITY: INST. FIZ., BAKU, USSR.

UNCLASSIFIED



2/3 012

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118042

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPOS. BETA CRSE, CR SUB7 SE SUB8, CR SUB2 SE SUB8, NICK SUB2 SE SUB4, VCR SUB2 SE SUB4, AND FECR SUB2 SE SUB4 CRYSTALLIZE IN THE MONOCLINIC B8 STRUCTURE AND ARE DEFECTIVE, WITH ORDERED VACANCIES PRESENT. UPON THE TRANSITION FROM BETA-CRSE TO CR SUB2 SE SUB3 THE VACANCY CONC. INCREASES, WHICH RESULTS IN THE APPEARANCE OF SEMICONDUCTOR PROPERTIES. THE THERMAL COND. OF THE COMPOS. CITED WITHIN THE TEMP. RANGE FROM SIMILAR TO 80-440DEGREESK WAS INVESTIGATED. THE SAMPLES WERE PREPD. BY BRIQUETTING POWDERS UNDER SIMILAR TO 3000 KG-CM PRIME2 AT 200DEGREESC, WITH THE SUBSEQUENT ANNEALING IN VACUUM AT 400DEGREESC FOR 50 HR. THE DATA INDICATE THAT THE LAMBDA SUBTOTAL VALUES DECREASE UPON THE TRANSITION FROM BETA-CRSE TO CR SUB2 SE SUB3 WITH INCREASED CONC. OF THE VACANCIES, BEING PHONON SCATTERING CENTERS. FOR CRSE AND CR SUB7 SE SUB8 THE LAMBDA SUBLATTICE IS ALMOST INDEPENDENT OF THE TEMP.; FOR THE REMAINING COMPOS. THE LAMBDA SUBTOTAL LAMBDA SUBELECTRONIC REMAINS PRACTICALLY CONST. TO SIMILAR TO 300-500DEGREESK, WHEREUPON IT INCREASES WITH THE TEMP. THIS IS CAUSED BY THE INCREASE IN THE ELECTRONIC COMPONENT OF THERMAL COND. THE INCREASE IN LAMBDA SUBLATTICE FOR CR SUB2 SE SUB3, FECR SUB2 SE SUB4, VCR SUB2 SE SUB4, AND NICK SUB2 SE SUB4 IN THE INTRINSIC COND. REGION IS ASSOCD. WITH THE INCLUSION OF HEAT TRANSFER BY BIPOLAR THERMODIFFUSION.

UNCLASSIFIED

1/3 012 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--THERMAL CONDUCTIVITY OF BINARY AND TERNARY SELENIDES OF TRANSITION  
ELEMENTS -U-  
AUTHOR-(03)-IVANOVA, V.A., ABDINOV, D. SH., ALIYEV, G.M.  
COUNTRY OF INFO--USSR **A**  
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 566-8  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--CHEMISTRY, MATERIALS  
TOPIC TAGS--THERMAL CONDUCTIVITY, SELENIDE, CHROMIUM COMPOUND, TRANSITION  
METAL  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1996/0867 STEP NO--UR/0363/70/006/003/0566/0568  
CIRC ACCESSION NO--AP0118042  
UNCLASSIFIED

USSR

ABDULLAYEV, G. B., et al, Doklady Akademii Nauk SSSR, Vol 194, No 4, 1 Oct 70, pp 798-800

that admixtures which are active in the crystalline state become inactive in the amorphous state. Under deoxygenization of polycrystalline hexagonal selenium the conductance at a given temperature reduces by a factor of 1000; i.e., is approximately 100 times greater than in the case of single crystalline selenium. This is attributed to two factors: (a) in the production of single crystals of selenium the selenium is cleaned of oxygen admixtures; and (b) oxygen atoms in polycrystalline samples, by reducing the intermolecular potential barriers, cause a growth in the mobility of current carriers during the motion of current carriers. The change in the electrical properties of single crystals of selenium under deoxygenization is attributed to the entry of oxygen atoms in the selenium lattice.

2/2

USSR

UDC 537.311.1

ABDULLAYEV, G. B., Academician of the Academy of Sciences Azerbaydzhan SSR, ALIYEV, G. M., MEKHTIYEVA, S. I., MAMEDALIYEVA, G. G., GADZHIYEV, F. B., DZHALILOV, N. Z., and ABDINOV, D. Sh., Institute of Physics of the Academy of Sciences Azerbaydzhen SSR, Baku

"On the Origin of Hole Conduction in Selenium"

Moscow, Doklady Akademii Nauk SSSR, Vol 194, No 4, 1 Oct 70, pp 798-800

Abstract: The type of conductivity of amorphous selenium with different degrees of crystallinity and also of monocrystalline selenium before and after deoxygenization was studied to obtain information on the origin of its hole conduction and to clarify the possibility of producing selenium with electron conduction. It is noted that it has been previously assumed that oxygen atoms in selenium cause its hole conduction by producing acceptor levels but that direct data supporting this assumption is practically nill. It is stated that the electrical properties of selenium are not associated with the presence of periodicity in the lattice but are basically determined by the short-range order; this short-range order therefore determines the width of the forbidden zone and consequently the concentration of natural free electrons and holes. Under amorphization of the material there occurs a grouping of atoms around the defects such

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USSR

VEYNGER, A. I., et al, Fizika i tekhnika poluprovodnikov, No 7, 1972, pp 1354-1358

apparatus are plotted on the same axes (the thermoemf as a function of the uhf power) and are seen to have good agreement.

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- 104 -

USSR

UDC: 621.315.592

VEYNGER, A. I., KRAMER, N. I., ABDINOV, A. Sh., and DADAMIRZAYEV, G., A. F. Ioffe Physico-Technical Institute, Leningrad

"Benedix Effect in the High-Frequency Heating of Unbalanced Carriers in Germanium"

Leningrad, Fizika i tekhnika poluprovodnikov, No 7, 1972, pp 1354-1358

Abstract: The authors define the Benedix effect as a thermoelectromotive force arising in a uniform semiconductor when the carriers are heated by powerful microwave pulses. They performed an experiment involving this effect and reported its results in an earlier paper published in this same journal (A. I. Veynger, et al, FTP, 6, 1972, p 916). The present paper proposes a revision of the earlier experiment which permits having the temperature and concentration gradients in the same region of the semiconductor specimen. A diagram of this revised apparatus is given. A formula for the thermoelectromotive force is theoretically derived on the assumption that the temperature of the carriers is proportional to the uhf power incident on the specimen. The curves for this formula and for the experimental data as obtained with the revised

1/2

USSR

UDC 68.74

TUKHVATOV, M. B., YAKUBOV, A. R., ABDIKHAKIMOV, N. A.

"Program for Execution of the Weighting Algorithm for Solving the Problem of Boolean Programming on the Minsk-22 Computer"

Nauch. zap. Tashkent. in-t nar. kh-va (Scientific Notes of Tashkent Institute of the National Economy), 1971, vyp. 60, pp 27-42 (from EZh-Kibernetika, No 7, Jul 72, Abstract No 7V609)

No abstract

1/1

- 71 -

2/2 020 UNCLASSIFIED PROCESSING DATE--11SEP70  
CIRC ACCESSION NO--AP0104638  
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE 12 MEMBERS OF THE KU-202  
SERIES (KU-202 A<sup>1</sup> THROUGH N (CYRILLIC ALPHABET)) OF SILICON THYRISTORS  
ARE PRODUCED BY PLANAR DIFFUSION TECHNOLOGY. THE WEIGHT OF ANY  
THYRISTOR IS NOT MORE THAN 20 G. AN EXTERNAL VIEW OF THE DEVICE AND ITS  
BASIC DIMENSIONS ARE SHOWN, AS WELL AS THE FORM OF THE STATIC CURRENT  
VOLTAGE CHARACTERISTICS. THE MAXIMUM PERMISSIBLE FORWARD VOLTAGES ARE  
AS FOLLOWS: KU-202A 25. KU-202B 25. KU-202V 50. KU-202G 50.  
KU-202D 100. KU-202YE 100. KU-202ZH 200. KU-202I 200. KU-202K 300.  
KU-202L 300. KU-202M 400. KU-202N 400. THE MAXIMUM PERMISSIBLE  
REVERSE VOLTAGES ARE AS FOLLOWS: KU-202A NOT STANDARDIZED. KU-202B  
25. KU-202V N.S.. KU-202G 50. KU-202D N.S.. KU-202YE 100. KU-202ZH  
N. S.. KU-202I 200. KU-202K N.S.. KU-202L 300. KU-202M N.S..  
KU-202N 400. THE ELECTRICAL PARAMETERS AT AN AMBIENT TEMPERATURE OF  
PLUS 25 PLUS OR MINUS 10DEGREESC AND THE MAXIMUM PERMISSIBLE OPERATING  
CONDITIONS ARE SHOWN ON MICROFICHE.

UNCLASSIFIED



1/2 020  
TITLE--KU-202 THYRISTOR -U-

UNCLASSIFIED

PROCESSING DATE--11SEP70

AUTHOR--ABDEYEVA, N.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, RADIO, NO 2, FEB 70, P 57

DATE PUBLISHED----FEB 70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--THYRISTOR, SILICON, PARTIAL DIFFUSION, PARAMETER/(U)KU202  
THYRISTOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REFL/FRAME--1987/1318

STEP NO--UR/0101/70/000/002/0057/0057

CIRC ACCESSION NO--AP0104638

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70  
CIRC ACCESSION NO--AP0136448  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL STUDY OF WIDEBAND  
AMPLIFICATION ON N-TYPE GAAS IN THE RANGE FROM 0.2 TO 1 GHZ DURING  
DOMAIN GENERATION. THEORETICAL ANALYSIS OF THE DATA SHOWS THAT THE  
GAIN CUTOFF FREQUENCY IS APPROXIMATELY FOUR TIMES HIGHER THAN THE GUNN  
FREQUENCY. CALCULATIONS ASSUME THAT THE EFFECTS OF DIFFUSION CAN BE  
NEGLECTED AND THAT THE DOMAIN FORMATION TIME IS SMALL IN COMPARISON WITH  
THE FLYBY TIME.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--AMPLIFICATION OF UHF OSCILLATIONS IN BULK GAAS DURING DOMAIN  
GENERATION -U-  
AUTHOR-(02)-ABDELFATTAKH, KH.A., RZHEVKIN, K.S.

COUNTRY OF INFO--USSR

SOURCE--RADIOTEKHNICA I ELEKTRONIKA, VOL. 15, JUNE 1970, P. 1247-1250

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ULTRAHIGH FREQUENCY, GALLIUM ARSENIDE, ELECTRONIC  
AMPLIFICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3007/1021

STEP NO--UR/0109/70/015/000/1247/1250

CIRC ACCESSION NO--AP0136448

UNCLASSIFIED

USSR

ABDALIMOV, B., MALEVICH, T. L.

"The Central Limit Theorem for U Statistics"

Sluchayn. Protsessy i Stat. Vyvody. [Random Processes and Statistical Conclusions -- Collection of Works], No 2, Tashkent, Fan Press, 1972, pp 3-9 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1975, Abstract No 1 V176 by the authors).

Translation: Statistics of the form

$$U_{n(n-1)\dots(n-m)} = \sum_{\substack{j_1, \dots, j_m \\ j_1 \neq j_2 \neq \dots \neq j_m \\ j_1, \dots, j_m \\ \in 1, \dots, n}} \Phi(X_{j_1}, \dots, X_{j_m}).$$

are studied, where  $\{X_j\}$  is a stable sequence, satisfying the condition of even strong mixing. The central limit theorem is proven for these statistics with certain limitations on the mixing factor.

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2/2 027

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0127469

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GASOLINE LIGROINE FRACTION, B. IS SMALLER THAN OR EQUAL TO 220DEGREES, WAS PROCESSED. AS THE TEMP. INCREASED FROM 480 TO 560DEGREES, THE YIELD OF H-CH SUB4 FRACTION INCREASED AND THAT OF UNSATD. HYDROCARBONS DECREASED FROM 47.8 TO 44.9 WT. PERCENT. THE MAX. GAS YIELD OF 72.0 WT. PERCENT BASED ON RAW MATERIAL WAS OBTAINED AT 0.5 HR PRIME NEGATIVE1 AND 560DEGREES WHEN 3.2PERCENT COKE WAS DEPOSITED ON THE CATALYST, BUT THE OPTIMUM GAS AND UNSATD. HYDROCARBON YIELD WAS OBTAINED AT 0.7 HR PRIME NEGATIVE1. THE HIGHER YIELD OF 87PERCENT CATALYZATE WAS OBTAINED AT 0.7 HR PRIME NEGATIVE1 AND 480DEGREES. THE LIQ. CATALYZATE WAS USED FOR HIGH OCTANE GASOLINE. CHARACTERISTICS OF THE RAW MATERIAL AND RESULTS ARE TABULATED. FACILITY: AZERB. INST. NEFTI KHIM. IM. AZIZBEKOVA, BAKU, USSR.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--CRACKING OF A WIDE FRACTION OF SIAZAN PETROLEUMS OVER AN ALUMINA  
CHROMIA CATALYST -U-  
AUTHOR-(05)-GUSEINOV, D.A., GAMIDZADE, G.A., ABASOVA, N.A., GADZHIEV,  
G.G., AKOPYAN, M.P.  
COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., NEFT GAZ 1970, 13(3), 47-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS, PROPULSION AND FUELS

TOPIC TAGS--GASOLINE, CATALYTIC CRACKING, ALUMINA, CHROMIUM, METHANE,  
HYDROGEN, THERMAL EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/2096

STEP NO--UR/0152/70/013/003/0047/0049

CIRC ACCESSION NO--AP0127469

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70  
CIRC ACCESSION NO--AP0122516  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REDESCRIPTION OF A LITTLE KNOWN  
SPECIES, TYPHLODROMUS TILIAE OUDEMANS, 1929 AND DESCRIPTIONS OF 8 NEW  
SPECIES: 3 FROM THE GENUS MUMASEIUS DE LEON, 1965 (GROUP RHENANUS), 3  
FROM THE GENUS AMBLYSEIUS BERLESE, 1915 (1 SPP. FROM THE GROUP  
CUCUMERIS), 2 FROM THE GENUS AMBLYSEIULUS MUMA, 1961 ARE GIVEN.  
FACILITY: INST. ZOOL. ACAD. SCI. AZERB. SSR, BAKU, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--LITTLE KNOWN AND NEW SPECIES OF PREDATORY MITES PHYTOSEIIDAE OF THE  
FAUNA OF AZERBAIJAN -U-  
AUTHOR--ABBASOVA, E.O. A  
COUNTRY OF INFO--USSR  
SOURCE--ZOO ZH 49(1): 45-55. ILLUS. 1970  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--MITE, PLANT PATHOGEN  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1999/0314 STEP NO--UR/0439/70/049/001/0045/0055  
CIRC ACCESSION NO--AP0122516  
UNCLASSIFIED



USSR

EFENDIYEV, A. A., et al., Azerbaydzhanskiy Khimicheskiy Zhurnal, No 2, 1971, pp 159-163

the ions of alkali and alkaline earth metals (adsorption capacity  $< 0.1$  mg/equiv/g), while adsorbing effectively and with a selectivity close to 100% the ions of Cu, Co, and Ni from aqueous solutions containing ions of alkali and alkaline earth metals. Adsorption of Cu, Co, and Ni ions took place with the formation of complexes which were decomposed under the action of 1N HCl. Adsorption of  $\text{Co}^{++}$  and  $\text{Ni}^{++}$  was carried out at pH 6.8, that of  $\text{Cu}^{++}$  at pH 5.2, using solutions of acetates of the metals being adsorbed. A study of the kinetics of adsorption of  $\text{Cu}^{++}$  at pH 5.2 indicated that adsorption proceeded slowly - a state of equilibrium was reached only in several days. On the other hand, desorption with 1N HCl took place rapidly, being completed in 30 min. As shown by an electron-microscopic study, the difference in the rate of desorption vs. that of adsorption was due to a change in the structure of the copolymers with a changing pH; at pH  $\leq 1.1$  the copolymer macromolecules had a fibrillar structure, whereas at pH  $\geq 3$  the fibrils rolled up, forming globules.

2/2

USSR

UDC 661.718.1+661.183.123

EFENDIYEV, A. A., ABBASOVA, B. G., OSMANOV, U. O., and KERIMOVA, S. A.,  
Institute of Theoretical Problems of Chemical Technology, Academy of Sciences  
Azerbaijdzhan SSR

"Phosphorus-Containing Complex-Forming Polymers on the Basis of Vinylphosphonic  
Acid Diisobutyl Ester and Acrylic Acid"

Baku, Azerbaydzhanskiy Khimicheskiy Zhurnal, No 2, 1971, pp 159-163

Abstract: Vinylphosphonic acid diisobutyl ester (I) was copolymerized with acrylic acid (II) to form copolymers containing I 50.2, II 49.8, cross-linking agent 4% (P 6.8%) and I 22.5, II 77.5, cross-linking agent 4% (P 3.0%). Copolymerization was carried under the action of UV light in the presence of 1% cumene hydroperoxide, (cf. V. A. Kargin, A. A. Efendiyev, et al DAN SSSR, Vol 144, p 1307, 1962). I was prepared by splitting off HCl from beta-chloroethylphosphonic acid diisobutyl ester obtained by reacting iso-BuOH with a mixture of  $AlCl_3$ ,  $PCl_3$  and dichloroethane. Comparison of the two copolymers showed that with an increasing content of II the moisture content increased, the tensile strength and relative elongation decreased, and the rate of swelling increased. The capacity of films of the copolymers to adsorb K, Na, Ca, Mg, Ba, Ln/Mn ?/, Cu, Co, and Ni ions was determined. The films practically did not adsorb

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USSR

UDC 678.6

EFENDIYEV, A. A., et al., Azerbaydzhanskiy Khimicheskiy Zhurnal, No 2 (84), 1973, pp 97-99

an alkaline medium. The films are capable of extracting copper ions from neutral and even weakly acid solutions which indicates the occurrence of complex formation.

2/2

- 8 -

Organophosphorous Compounds

USSR

UDC 678.6

EFENDIYEV, A. A., ABBASOVA, B. G., BABAZADE, S. N., ORUDZHEV, D. D., KHUDIYEV, A. K.

"Synthesis and Sorption Properties of Phosphorus Containing Selective Poly-electrolytes"

Baku, Azerbaydzhanskiy Khimicheskiy Zhurnal, No 2 (84), 1973, pp 97-99

Abstract: A description is given of the synthesis of complex-forming films based on copolymers of diethyl ether of vinylphosphonic acids and acrylic acid with different ratios of the components. A study is made of their sorption properties as a function of the copolymer composition. Tabulated data are presented which show that it is more difficult for the diethyl ether of vinylphosphonic acid to enter into the copolymerization reaction than acrylic acid -- for all monomer ratios in the initial mixture, copolymers are obtained which are impoverished with respect to the ether.

A study was made of the sorption properties of cross-linked films with respect to K, Na, Ca, Mg, Ba, Zn and Cu ions in solutions with a concentration equal to 0.1 normal by the static method. Films based on the copolymers of all compositions (including the homopolymer of acrylic acid) fail in practice to extract ions of alkali and alkali-earth metals from water solutions of their chloride and sulphate salts. The films extract K and Na ions only in

1/2

UDC 543.217.4

USSR

ABBASOV, T. G., All-Union Scientific-Research Institute of Veterinary  
Sanitation

"A Method of Determining Methyl ethyl trichlorophenyl thiophosphate in  
Certain Products of Vegetable Origin"

Moscow, Khimiya v Selskom Khozyaystve, No 2, 1971, pp 28-29

Abstract: Determination of the residual amounts of methyl ethyl trichloro-phenyl thiophosphate a contact-action acaricide, the products of which are used in fodder and also in protection of grain harvests, is of great practical importance; however, no practical methods of such determination have been formulated. The method suggested here is chromatographic; it is sufficiently accurate to reveal the presence of methyl ethyl trichlorophenyl thiophosphate in fodders in the amount of 0.25 mg/kg or larger.

USSR

UDC 619:614.9-07:637.5+637.1

ABBASOV, T. G., All Union Scientific Research Institute of Veterinary  
Sanitation

"Determination of Chlorophos (Dipterex) in Meat and Milk by Means of  
Thin-Layer Chromatography"

Moscow, Veterinariya, No 1, Jan 71, pp 101-102

Abstract: The proposed method is based on extraction of chlorophos from a sample of milk or meat with organic solvents (acetone, chloroform) and purification of the extract on a chromatographic plate in a thin layer of aluminum oxide, using as a solvent chloroform or H-hexane-acetone-chloroform (45:15:3). The spots are found after the plates are sprinkled first with a 20% aqueous solution of sodium hydroxide and then with a 1% solution of silver nitrate, followed by heating of the plates. A quantitative assay is made by visually comparing the intensity of the color and size of the spots with a standard scale.

1/1

Analytical Chemistry

USSR

UDC 543.544:633.314

ABBASOV, T. G., All Union Scientific Research Institute of Veterinary Sanitation

"Determination of Phosphamide in Feed by Means of Thin Layer Chromatography"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 10, No 3, 1972, pp 46-47

Abstract: A thin layer chromatographic method is described for determination of Phosphamide in various feeds: potatoes, red beets, oat, rye, etc. The material was extracted with chloroform and chromatographed on thin-layer alumina plates using two passages of a 1:3 mixture of acetone:hexane followed by a third passage of chloroform as the mobile phase. The spots were developed with 20% NaOH solution and 1% AgNO<sub>3</sub> solution, and compared visually with two control levels of phosphamide.

USSR

UDC 632.95.028

ABBASOV, T. A., All-Union Scientific Research Institute of Veterinary Sanitation

"Residues of Organophosphorus Insecticides in Clover and Potato Plants"

Moscow, Khimiya v sel'skom Khozyaystva, No 8, 1972, pp 37-38

Abstract: The residues of chlorophos, phosphamid, trichlorometaphos-3 and methylnitrophos were analyzed in clover and potato plants after treatment with these organophosphorus insecticides in the amounts of 2 kg/hectare. The analysis was performed by the method of thin-layer chromatography, and the results were tabulated. When analyzing clover samples, cut and dried two days after treatment, it was established that chlorophos remained up to 10 days, phosphamid, 8-10 days, methylnitrophos, 15 days and trichlorometaphos-3, 16 days in the dried plants. The potato top analysis showed that the organophosphorus insecticides remained in the plants only a short period of time. No residue of chlorophos was detected after 10-12 days, phosphamid after 8-10 days, trichlorometaphos-3 after 13 days and methylnitrophos after 17 days. No residues were found in the potato tubers on chromatographic analysis.

1/1



2/2 015

UNCLASSIFIED

PROCESSING DATE--0900T70

CIRC ACCESSION NO--AP0109276

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROPERTIES WERE GIVEN OF METHYLNITROPHOS, A MIXT. OF O,O-DIMETHYL,O,4,NITRO,3-METHYLPHENYLTHIOPHOSPHATE (I) (70-75PERCENT) AND O,O-DIMETHYL,O,6,NITRO,3-METHYLPHENYLTHIOPHOSPHATE (II) (25-30PERCENT), AND ITS BIOLOGICAL ACTIVITY. ISOMER I IS THE ACTIVE SUBSTANCE, AND II ACTED SYNERGISTICALLY. FORMULAE ARE GIVEN PERMITTING CALCN. OF THE CONTENT OF PARTICULAR ISOMERS WITH AN ACCURACY OF SIMILAR TO 2.5PERCENT.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--PROPERTIES AND METHODS FOR ANALYZING METHYLNITROPHOS -U-

AUTHOR--(05)-BAKANOVA, Z.M., MANDELBAUM, YA.A., MELNIKOV, N.N., SUPIN,  
G.S., ABBAKUMOVA, N.V.  
COUNTRY OF INFO--USSR

SOURCE--KHIM. SEL. KHOZ. 1970, 8(1), 32-5

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ISOMER, ORGANIC PHOSPHOROUS INSECTICIDE, ORGANIC NITRO  
COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1990/1159

STEP NO--UR/0394/70/006/001/0052/001

CIRC ACCESSION NO--AP0109276

UNCLASSIFIED

USSR

BAKANOVA, Z. M., et al., Khimiya v Sel'skom Khozyaystve, Vol 8, No 1, Jan 70, pp 32-35

these preparations against the citrus white fly. Both isomers of methylnitrophos, as well as free 3-methyl-4-nitro- and 3-methyl-6-nitrophenols were determined by the authors by the polarographic method. The article describes the analysis procedure.

USSR

UDC 632.95:601.718.1

BAKANOVA, Z. M., MANDEL'BAUM, YA. A., SUPIN, G. S., MEDVEDEV, N. N.,  
and ABBAKUMOVA, N. V., All-Union Scientific Research Institute of  
Chemical Plant Protectants

"Properties of Methylnitrophos and Methods for Its Analysis"

Moscow, Khimiya v Sel'skom Khozvaistve, Vol 8, No 1, Jan 70, pp 32-35

Abstract: Chemically pure methylnitrophos consists of two isomers, viz. O,O-dimethyl-O-4-nitro-3-methylphenyl thiophosphate (70-75 percent) and O,O-dimethyl-O-6-nitro-3-methylphenyl thiophosphate (25-30 percent). Isomer I is the principal active ingredient of commercial methylnitrophos, isomer II the synergist for isomer I. Studies conducted in 1964-1968 showed that methylnitrophos matches the insecticidal properties of isomer I (Sumithion, Metathion). This is confirmed by data of the Ternopol' Agricultural Experiment Station on the effectiveness of Metathion and methylnitrophos against the beet leaf miner and beet leaf aphid, as well as by results obtained in experiments of the Georgian Subtropical Laboratory on the effectiveness of

1/2

- 145 -

Refractory Materials

USSR

UDC: 666.763.4

IVANOV, Ye. V., POLGINA, G. Z., BUNINA, V. P., ABRAMOV, V. G., TARAKANCHIKOV,  
G. A. **Ukrainian Scientific-Research Institute of Refractories, All-Union Institute  
of Refractories**

"Production of Magnesium Oxide From Sea Water and Dolomites"

Moscow, Ogneupory, No 12, 1973, pp 25-30.

Abstract: A technological process has been developed for the production of synthetic magnesium oxide (97% MgO) by a hydrate plan from Black Sea water and dolomites. The two-stage process of treatment of magnesium hydroxide paste produced from the sea water and dolomites, consisting of drying-briquetting-roasting or dehydration-briquetting-roasting, produces dense powders for the production of refractory products. A number of steps have been taken to assure achievement of high roasting temperatures of briquettes in the 22-meter-long rotating furnace, allowing the fraction of primary air to be regulated and its mixing with the fuel to be improved. Roasting is performed at maximum temperatures of 1750-1770° C, with the quantity of primary air injected reaching 62% of the theoretically necessary quantity.

USSR

UDC 621.357.5.035:621.70.027(088.8)

ABAYDULIN, G. U., URETSKIY, R. A., and KOCHESHKOVA, I. I.

"Apparatus for the Electrochemical Treatment of Metals"

Author's Certificate No 338342, filed 21 Oct 70, published 15 Jun 72 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L288P)

Translation: A device is patented for the electrochemical treatment of metals which is in the shape of a drum having a regulator for the flow of the process solution, electric driving gear, a power supply, a pipe for the delivery of the process solution, a bath, and a pump. It is improved in that in order to increase the efficiency and the technological possibilities of the instrument, along the axis of revolution of the barrel is located in a mobile chamber having throttled openings directed towards the zone of the treatment of the piece.

1/1

USSR

MAYCHUK, Yu. F. and ABAZOV, T. H., Meditsinskiy Zhurnal Uzbekistana, No 10, 1971, pp 61-62

florenal ointment is an effective drug for the treatment of adenoviral eye diseases.

2/2

- 59 -

USSR

MAYCHUK, Yu. F., Doctor of Medical Sciences, and ABAZOV, T. H., Clinical Viral Department of the Moscow Scientific Research Institute of Eye Diseases imeni Helmholtz

"Therapeutic Effectiveness of Florenal in Adenoviral Eye Diseases"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 10, 1971, pp 61-62

Abstract: According to data released by the All Union Scientific Research Chemicopharmaceutical Institute, the new Soviet drug florenal exerts a strong neutralizing effect on some viruses. The drug was tested by the authors on 30 male and female patients, aged 10 to 80, who had had uni- and bilateral adenoviral conjunctivitis and keratoconjunctivitis for 2 to 21 days. The drug was applied to the eyes in the form of a 0.25% and 0.5% ointment 3-5 times per day at first and 1-2 times per day subsequently. Patients who also had bacterial conjunctivitis were given topical drops of a 10% sulfapyridazine solution and corticosteroids in addition to florenal. Significant improvement was observed in 2-3 days, and complete clinical recovery took place in 6-15 days, with an average of 11 days. Side effects were observed in only one patient in the form of a colic in the eye. Otherwise, the drug was well tolerated and caused no irritation. It is concluded that

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USSR

BAGIROV, M. A., and ABASOV, S. A., et al., Physics Institute of the Azerbaydzhan Academy of Sciences

"Change in Mechanical Properties and Structure of Polystyrene Film Under Ultraviolet Radiation in Air"

Baku, Izvestiya Akademii Nauk Azerbaydzhanskoy SSR, Seriya Fiziko-Tekhnicheskikh i Matematicheskikh Nauk, Jan-Feb 73, pp 70-73

Abstract: The effect of ultraviolet radiation on the mechanical strength and thermomechanical properties of polystyrene film was investigated. At the same time, the change in the infrared absorption spectra was observed.

It was established that the changes in the elongation strain (above the second-order transition temperature) and the mechanical strength of polystyrene film under ultraviolet radiation are correlated with the degree of oxidation, according to the optical density of the carbonyl band.

The fact that the strain in the viscous-fluid state and the mechanical strength of polystyrene film are functions of the duration of the ultraviolet radiation is accounted for by the processes of photooxidative destruction and cross-linking of polymeric chains.

The article includes three figures. There are eight bibliographic references.

1/1

2/2 025

UNCLASSIFIED

PROCESSING DATE--0200170

CIRC ACCESSION NO--AP0102792

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FERROUS PREPARATION FERBITOL TO BE INJECTED INTRAMUSCULARLY WAS USED IN A POLYCLINICAL DEPARTMENT OF THE LENINGRAD INSTITUTE OF HEMATOLOGY AND BLOOD TRANSFUSION IN 45 PATIENTS WITH HYPOCHROMIC HYPOFERRIC ANEMIA OF VARIOUS ETIOLOGY. THE DURATION OF THE ILLNESS WAS FROM SEVERAL MONTHS TO 10 YEARS. THE USE OF THE PREPARATION SHOWED ITS HIGH EFFICACY AND ABSENCE OF SIDE EFFECTS. AFTER A COURSE OF TREATMENT (11-13 INJECTIONS IN A DOSE OF 2 ML DEPENDING UPON THE SEVERITY OF ANEMIA) AN INCREASE OF HEMOGLOBIN LEVEL, AS AN AVERAGE BY 1 UNIT, AND OF ERYTHROCYTE COUNT BY 35000 PER ONE INJECTION WAS OBSERVED IN ALL THE PATIENTS. RETICULOCYTIC CRISIS COMES ON THE 6-8TH DAY AND MAKES, AS AN AVERAGE, 65PERCENT SUBO. SIMULTANEOUSLY GENERAL CONDITION OF PATIENTS IMPROVED AND THEIR WORKING CAPACITY REGAINED. THE PREPARATION CAN BE RECOMMENDED FOR THE TREATMENT OF HYPOFERRIC ANEMIA IN POLYCLINICAL CONDITIONS.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--USE OF FERBITOL FOR THE TREATMENT OF PATIENTS WITH HYPOFERRIC  
ANEMIA IN A POLYCLINIC -U-  
AUTHOR-(02)-ABAZID, M.A., ANDRIANOVA, I.G. *A*  
COUNTRY OF INFO--USSR  
SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 3, PP 106-108  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ANEMIA, IRON COMPOUND, HEMOGLOBIN, ERYTHROCYTE, BLOOD COUNT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY KEY/FRAME--1986/0330 STEP NO--UR/0504/10/042/003/0106/0102  
CIRC ACCESSION NO--AP0102792  
UNCLASSIFIED

USSR

ABAZADZE, Yu. V., SOLOV'YEV, Ye. G., Radiotekhnika i Elektronika, Vol 16,  
~~No 1~~, Jan 71, pp 149-159

measurements were made at 1.7-2.0°K. Extrapolation of these measurements to 4.2°K indicates a gain of no more than 6-7 DB for an instantaneous amplification band (at the -3 DB level) of 5.0-6.5 MHz. Amplifier tuning by a magnetic field in this case is no greater than 200 MHz. Thus it is obvious that increasing the rutile filling of the decelerating system is effective.

USSR

UDC: 621.375.029.67

ABAZADZE, Yu. V., SOLOV'YEV, Ye. G.

"Miniaturized Traveling-Wave Paramagnetic Quantum Amplifier for the Decimeter Range Based on Chromium-Doped Rutile"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 1, Jan 71, pp 149-159

Abstract: The authors describe a traveling-wave quantum paramagnetic amplifier which is tunable by a magnetic field over ranges of 1700-2040 and 2100-2460 MHz. A miniaturized rod system with rutile filling is used as the decelerating system. In rod-type decelerating systems where the active medium is a dielectric with anisotropic, high-value relative permittivity, the system can be completely filled with rutile. The characteristics of such a decelerating system are calculated and the principal changes in the dispersion characteristic with increasing relative permittivity of the active medium are indicated. In a 90.8 mm decelerating system completely filled with chromium-doped rutile, the proposed amplifier gives a pure gain of 11-16.4 DB in the given frequency band. The measurements were made at 4.2°K. The instantaneous amplification band (at the -3 DB level) was changed from 21.5 to 10.1 MHz. These data compare favorably with those reported by Rydbeck and Kollberg for an amplifier using a 56 mm decelerating system with incomplete chromium-doped rutile filling. Gain

1/2

USSR

ABAYEV, M. I., KORNFEL'D, M. I., Institute of Semiconductors, Academy of Sciences  
USSR, Leningrad

"Light Scattering in Plastically Deformed NaCl Crystals"

Leningrad, Fizika Tverdogo Tela, No 9, September 1970, pp 2760-2762

Abstract: The distribution of light in plastically deformed crystals of sodium chloride was investigated. The crystals were grown from the raw material "NaCl for acoustic monocrystals" by the Kiropoulos method and after growth were cooled, together with the furnace, for 15 hours. The sample had the shape of a cylinder 1.0 cm in diameter and 1.5 cm high, cut along the cubic axis of the crystal. Plastic deformation was effected by compression of the sample along the cylinder axis. Incident radiation with a wavelength of 540 nanometers, polarized in such a manner that the electrical vector is perpendicular to the plane of scattering, passes along the cylinder axis which coincides with the direction of [100]. Measurements are made of the intensity of light scattered at an angle of  $90^\circ$  by a central region of the sample with a volume of several cubic millimeters. The ratio of the intensity of the scattered light to the angle of turn can be found by turning the sample about its axis. The experimental results are presented in the article. 2 figures, 4 bibliographic entries.

1/1

USSR

UDC 615.21+615.22]:547.785.5].012.1

PECHENINA, V. M., MUKHINA, N. A., ABATUROVA, K. A., GRENENSHCHIKOVA, L. P.,  
MIKHAYLOVA, T. V., KURILENKO, V. M., and GILEV, A. P., Novokuznetsk Scientific  
Chemical-Pharmaceutical Research Institute

"Synthesis and Investigation of Some Benzimidazole Derivatives. V. Esters and  
Ethers of 1-Hydroxymethyl- and 1-(2-Hydroxyethyl)-benzimidazoles"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 5, No 10, Oct 71, pp 13-15

Abstract: To annalkoxide obtained from 0.04 g-atom of metallic Na and corres-  
ponding alcohol, 0.02 mole of 1-chloromethylbenzimidazole hydrochloride is added  
with stirring, the mixture is left standing for several hours, the precipitate  
is removed by filtration, the filtrate is evaporated, and the oily residue is  
dissolved in ethanol. Upon addition of an alcoholic acid solution the respective  
salts of 1-hydroxymethylbenzimidazole ether is precipitated. To obtain esters  
of 1-(2-hydroxyethyl)benzimidazole, a previously described method was used.  
The compounds are moderately toxic, affecting slightly the central nervous sys-  
tem, lowering rectal temperature, and disturbed coordination in some animals.  
Specific physiological effects of select representatives are reported, but no  
general trend is noticeable.

1/1

USSR

MIRCHINK, T. G., et al., Mikrobiologiya, Vol 41, No 1, Jan/Feb 72, pp 83-86

at only 10 to 15 curie, in spite of their dark pigmentation. The presence of pigment usually increased the resistance to gamma-irradiation. The resistance of the strains within one species varied with the location from which the particular strains were isolated.

2/2

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USSR

UDC 582.28.095.14.3

MIRCHINK, T. G., KASHKINA, G. B., and ABATUROV, Yu. D., Chair of Soil Biology, Faculty of Soil Biology, Moscow State University imeni M. V. Lomonosov, Moscow

"The Resistance of Fungi Containing Various Pigments to Gamma-Irradiation"

Moscow, Mikrobiologiya, Vol 41, No 1, Jan/Feb 72, pp 83-86

Abstract: Twenty-one strains of fungi lacking pigment or containing various pigments were tested for their resistance to gamma-irradiation under a cobalt lamp. The pigmentless strain *Cephalosporium acremonium* and *Penicillium luteum* containing yellow-orange pigment of noncarotenoid type were killed by 80 to 100 curie. Their LD<sub>50</sub> dose was 10 to 25 curie. The red-violet fungi of *Fusarium* sp. had a similar LD<sub>50</sub> (10 to 25 curie), but they were killed by doses over 100 curie, and some strains of this species were killed by doses exceeding 250 curie. *Stemphylium botryosum* containing black pigment was very resistant: 1.2 percent to 1.7 percent survived irradiation by 625 curie. The strains isolated from high mountain soil samples had LD<sub>50</sub> around 180 curie, those from lowland plain soil around 140 curie. *Alternaria tenuis* had a similar resistance of its strains isolated from mountain soil, but it was more sensitive in lowland soil (LD<sub>50</sub> = 60 to 80 curie). However, fungi of the genus *Cladosporium* were less resistant, being killed by 625 curie and having LD<sub>50</sub> 1/2

USSR

UDC 681.327

VAL'KOV, V.M., ABATUROV, S.S., et al.

"Device for Speech Output of Information"

USSR Author's Certificate No. 275520, Filed 3/04/69, Published 15/10/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No. 4, 1971, Abstract No. 4B547P).

Translation: Devices for speech output of information containing a magnetic drum and a number of electronic circuits are well known. In these devices, the words are recorded on individual tracks located around the circumference of the drum. In order to reduce the words recorded to a single length, which is necessary to eliminate pauses arising between short and long words, complex equipment must be used: for example, magnetic tape accumulators, apparatus for speech recognition, etc. The device suggested differs in that the word memory unit consists of magnetic drums of various diameters, with the outputs of the read heads connected through commutators to an equalizer, the output of which is connected to the reproduction amplifier. 1 fig.

1/1

USSR

UDC: 681.327.11

VAL'KOV, V. M., ABATUROV, S. S., MIKHAYLOV, V. I., VORONIN, V. F.

"A Device for Data Output by Means of Speech"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 22, 1970, Soviet Patent No 275520, Class 42, Filed 3 April 1969, p 117

Abstract: This Author's Certificate introduces a device for data output by means of speech. The device contains a memory unit connected to an electric motor, an arbitrary word-sampling circuit, and a playback amplifier connected to a loudspeaker. As a distinguishing feature of the patent, the device is simplified by making the memory unit in the form of magnetic drums of different diameters and connecting the outputs of the readout head units through commutators on the different steps to a balancer whose output is connected to the playback amplifier.

1/1

USSR

UDC: 534.13:546.212.54-185

AGAYEV, N. A., ABASZADE, Azad, Azerbaydzhan Scientific Research Institute of Power Engineering, Baku

"Experimental Determination of the Viscosity of Mixtures of Ordinary and Heavy Water at High Pressures"

Moscow, Doklady Akademii Nauk SSSR, Vol 209, No 4, 1 Apr 73, pp 829-831

Abstract: The authors study the viscosity of mixtures of ordinary and heavy water at pressures of 1-1200 kg/cm<sup>2</sup> and temperatures of 4-75°C. The research was done on a device proposed by I. F. Golubev for determining the viscosity of liquid and gases at high pressures (I. Golubev, N. A. Agayev, Vyazkost' predel'nykh uglevodorodov [Viscosity of Saturated Hydrocarbons], 1964). It was found that the concentration dependence of the mixtures decreases with an increase in temperature. The isobars of the concentration dependence of viscosity decrease at constant temperatures in the region close to the melting point.

USSR

BAYRAMOV, M. M., et al, Vodosnabzheniye i Sanitarnaya Tekhnika,  
No 5, 1970, pp 15-18

various heating units, provided they are not in direct contact with other metals and that O<sub>2</sub> as well as O<sub>3</sub> are removed from water. Experimental data reported in this paper should be rechecked under actual working conditions.

2/2

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USSR

Water Treatment

UDC 669.715:620.193.27

BAYRAMOV, M. M., Candidate of Technical Sciences; ABASOV, T. A.,  
Engineer, Baku

"Study of the Corrosion of Pipes Made of Aluminum Alloys for Use  
in Salt Water Distillation Units"

Moscow, Vodosnabzheniye i Sanitarnaya Tekhnika, No 5, 1970, pp  
15-18

Abstract: The possibility of replacing the expensive copper pipes  
in the heating elements of salt water distillation units with  
aluminum alloy pipes was studied. All of the brands of aluminum  
alloy pipes examined, with the exception of AMTsM, showed poor  
resistance to corrosion by sea water, which must be acidified  
to avoid excessive sedimentation in heaters of adiabatic salt water  
distilling units. After a 1000 hrs test run, AMTsM aluminum pipes  
proved to have the highest resistance to corrosion. It was deter-  
mined that the AMTsM pipes may be used as construction material for

1/2

USSR

ABASOV, S. A., et al, Baku, Doklady Akademii Nauk Azerbaydzhansk SSR, vol 28, No 8, 1972, pp 11-16

to be  $U_0 = 23$  kcal/mol. Academician G. G. ABDULIYEV assisted the authors in this work. 5 figures, 1 table, 11 bibliographic references.

2/2

- 37 -

USSR

UDC 539.4.001.2

ABASOV, S. A., ALIYEVA, M. KH., and ELMIRA, CHALAL GYZY

"Strength Properties of a TlSe Single Crystal and the Effect of Different Factors on It"

Baku, Doklady Akademii Nauk Azerbaydzhan SSR, Vol 28, No 3, 1972, pp 11-16

Abstract: The results of investigating the time and temperature relationship for the strength of a thallium selenide single crystal and the effect of heat treatment, crystal anisotropy, and various impurities on these relationships are presented. It was found that the thallium atoms in TlSe exist in two completely different crystallographic positions in which half the atoms are monovalent and the remainder trivalent. During heat treatment (525°K for 2 and 25 hours) favorable conditions are created for dissipation of thermal stresses, the atoms occupy their normal positions, and the crystal becomes more complete. During this same period the concentration of carriers decreases from  $10^{16}$  to  $10^{13}$  cm<sup>-3</sup>, resulting in increased crystal strength. However, when the heat-treated TlSe single crystal is quenched after heat treatment, unstable acceptor centers are formed, associated with inherent lattice defects, which leads to an unstationary state and strength is diminished. The activation energy for the process of mechanical failure of TlSe was found 1/2



2/2 022 UNCLASSIFIED PROCESSING DATE--020170  
CIRC ACCESSION NO--AP0112983  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COND. WAS DETD. AT  
23.6-343.7DEGREES (25DEGREES INTERVALS) AND 10 PRESSURES LESS THAN OR  
EQUAL TO 500 BARS. THE APP. USED WAS SUITABLE FOR DETNS. UNDER BOTH  
STATIONARY AND NONSTATIONARY THERMAL CONDITIONS. THE ERROR WAS PLUS OR  
MINUS 1.25PERCENT.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--020CT70  
TITLE--THERMAL CONDUCTIVITY OF 1,HEXENE AT VARIOUS TEMPERATURES AND  
PRESSURES -U-  
AUTHOR--(02)-NAZIYEV, YA.S., ABASOV, A.A. *A*  
COUNTRY OF INFO--USSR  
SOURCE--KHIM. TEKHNOL. DOPL. KASEL 1970, 15(3) 22-4  
DATE PUBLISHED---- --70  
  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--THERMAL CONDUCTIVITY, HEXENE, PRESSURE EFFECT, THERMAL EFFECT  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
RELAXY RELL/FRAME--1992/1439 STEP NO--UR/0065/70/115/0017/0022/0024  
CIRC ACCESSION NO--AP0112483  
UNCLASSIFIED

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ABASKULIYEVA, L. I., Azerbaydzhanskiy Meditsinskiy Zhurnal, No 2, Feb 71, pp 36-37

rapid introduction of the indicator fluid). Recordings of the blood flow could be made with one, two, or three electrode-catheters simultaneously. The most suitable and least traumatic conditions for making these recordings were: introduction of ascorbic acid into the right atrium with the recording electrode at the following locations: 1) in the left ventricle, 2) in the posterior venous field at a distance of 3-4 cm from the exit into the right atrium, 3) in the anterior venous field at a distance of 3-4 cm from the right atrium. With this arrangement, it is possible to record in one measurement and with a single introduction of ascorbic acid the dilution curves in the lesser circulation, the total blood flow, and the systemic circulation (specifically the highest and lowest venous fields). Ascorbic acid doses of 10-14 mg/kg were most suitable. The rapid diffusion of ascorbic acid in the organism necessitated repeated injections after each 3-5 minutes.

Dogs were used in these experiments and data were collected on the effect of morphine, adrenaline, mezaton, caffeine, and ether + oxygen (intratracheal narcotics) on the total blood flow, as determined by the lobeline method and the above P-H method. It was found that the latter method is more accurate and enables one to determine the blood flow rate simultaneously in the various circulatory sections.

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UDC: 612.15:615.78

ABASKULIYEVA, L. I., Laboratory of Pathophysiology of NIHKEM

"Comparative Evaluation of the Lobeline and Platinum-Hydrogen Methods for Determining the Complete Blood Circulation Period Under the Influence of Some Neurotropic Drugs"

Baku, Azerbaydzhanskiy Meditsinskiy Zhurnal, No 2, Feb 71, pp 32-37

Abstract: A new method for determining the rate of blood flow had been developed previously. It was based on the fact that platinum changes its potential under the effect of hydrogen ions. With introduction of hydrogen or hydrogen-ion producing materials, such as ascorbic acid, into the bloodstream, a platinum electrode can be used in combination with a special amplifier to record the change in potential or current strength. The period of complete blood circulation as well as the periods of the blood flow in the systemic and pulmonary circulations can be determined individually -- all at the same time. This provides a convenient means for studying the hemodynamics of many diseases. A electrode-catheter attached to a polyethylene tube was inserted at the desired site (monitored by x-ray) and ascorbic acid was introduced through a probe of at least 2 mm diameter (for

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RTSKHILADZE, V. G., et al., Soobshcheniya Akademii Nauk Gruzinskoy SSR  
Vol 67, No 3, 1972, pp 637-639

substrates and decreasing growth rate at high stream velocities was the increase in the quantity of  $AsCl_3$  present at the source zone. The growth rate as a function of argon stream velocity shows a maximum at about  $70 \text{ cm}^3/\text{min}$ , the subsequent decrease resulting from the fact that, due to the high difference in temperature drop between the two zones, a portion of the gallium arsenide formed is deposited on the walls of the reaction vessel before reaching the substrate zone. The quality of the epitaxial layer produced increases with increasing deposition temperature up to  $710-730^\circ\text{C}$ . The films produced were monocrystalline, oriented in the same direction as the substrate.

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## Thin Films

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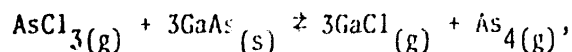
UDC: 541.124/.128

RTSKHILADZE, V. G., MOISTSRAPISHVILI, A. V., CHITORELIDZE, G. M.,  
MAMULASHVILI, M. P., ABASHIDZE, T. D.

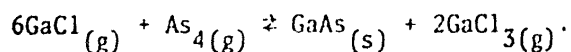
"Study of the Possibility of Producing Epitaxial Gallium Arsenide by  
the Method of Chemical Transport Reactions in a Stream of Argon"

Soobshcheniya Akademii Nauk Gruzinskoy SSR, Vol 67, No 3, 1972, pp 637-640.

Abstract: This article presents a study of chemical-transport deposition  
of gallium arsenide films, with the usual hydrogen transport medium  
replaced by the inert gas argon. The reaction at the source zone is



and in the deposition zone



The reaction tube was heated by a resistance furnace with two independent  
heaters. Temperature was maintained with an accuracy of 0.5°C in each  
zone. The study showed that the main factor influencing etching of the

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ABASHEV, F. KH and KATS, I. YA, Teor. i Prikl. Issled. Obshchenauch. Kafedr., Sverdlovsk, 1973, pp 64-66

here  $x^B$  is an assigned vector,  $P$  is a known matrix,  $\rho_1$  is a convex or quasiconvex function.

It is pointed out that the solution to this and similar problems is based on functional methods of the theory of optimal processes.

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ABASHEV, F. KH and KATS, I. YA.

"Stochastic Problems of Optimal Control with Nonconvex Limitations"

Teor. i Prikl. Issled. Obshchenauch. Kafedr. [Theoretical and Applied Studies of the General-Sciences Department -- Collection of Works], Sverdlovsk, 1972, pp 64-66 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V256)

Translation: Problems of optimal control are discussed for linear systems described by differential equations

$$\frac{dx_t}{dt} = A(t)x_t + B(t)u_t + \xi_t,$$

where  $u_t$  is the control action,  $\xi_t$  is a certain random process,  $A(t)$ ,  $B(t)$  are known continuous functions of  $t$ . Control  $u_t$  is a deterministic function of time and is selected from a weakly compact convex set. The optimal control from this set minimizes  $t_\beta - t_\alpha$ , where  $t_\alpha$  is the initial moment in time,  $t_\beta$  is the moment in time when

$$M p_t [p_{x_{t_\beta}} - p_{x^0}] < \epsilon,$$



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KHOMYAK, Ye. M., KARYKOV, V. N.

"Calculating the Diffraction Attenuation of Microwaves from Natural Obstacles"

Tr. Buryatsk. in-ta estestv. nauk. Buryatsk. fil. Sib. otd. AN SSSR (Works of Buryatsk Institute of Natural Sciences. Buryatsk Branch of the Siberian Division of the USSR Academy of Sciences), 1970, vyp. 6, pp 15-29 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A274)

Translation: This article contains an investigation of an approximate solution of the problem of radiowave diffraction on obstacles of the absorbing type. The function of the effect of the side slopes of the obstacle is defined. On the basis of numerical analysis performed as applied to a convex obstacle of the absorbing type, the diffraction attenuation curves are constructed as a function of the side slopes. There are six illustrations and a ten-entry bibliography.

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UDC 621.762.001

ABARBANEL', Z. I., SAVITSKIY, S. Ye., URODOV, V. I., and SADOVNIKOV, YE G.

"Determination of the Spectrum of Particles of Fine Polydispersed Systems"

Tr. Vitebsk. tekhnol. in-ta legk. prom-sti [Works of the Vitebsk Technological Institute for Light Industry], 1, 1970, pp. 80-82, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No. 1G427 by V. KVIN).

Translation: A method and device have been developed for centrifugal photosedimentation analysis of polydispersed materials. A pure sedimentation liquid (SL) is placed in a cuvette, and a small quantity of another liquid with lower density is added, forming a thin buffer (starter) layer on the surface of the SL. When the suspension to be studied is introduced, the starter layer facilitates better dispersion of the particles on the surface of the SL and stabilizes the initial conditions of particle motion. The optimal analysis conditions, depending on the density and degree of dispersion of the material being studied, are achieved by proper selection of the SL, the dispersing liquid, and the rotating speed of the cuvette. 4 biblio. refs.

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UDC 621.762.001

ABARBANEL', A. I., and KOVCHUR, S. G., Tr. Vitebsk. tekhnol. in-ta le.k. prom-sti (from Referativnyy Zhurnal-Metallurgiya, No 1, 1970, Abstract No 1 G426 by I. Brokhin).

constant determined using standard materials with known specific surface. Radiation with the shortest possible wavelength should be used. Photo-electric determination significantly reduces analysis time.